

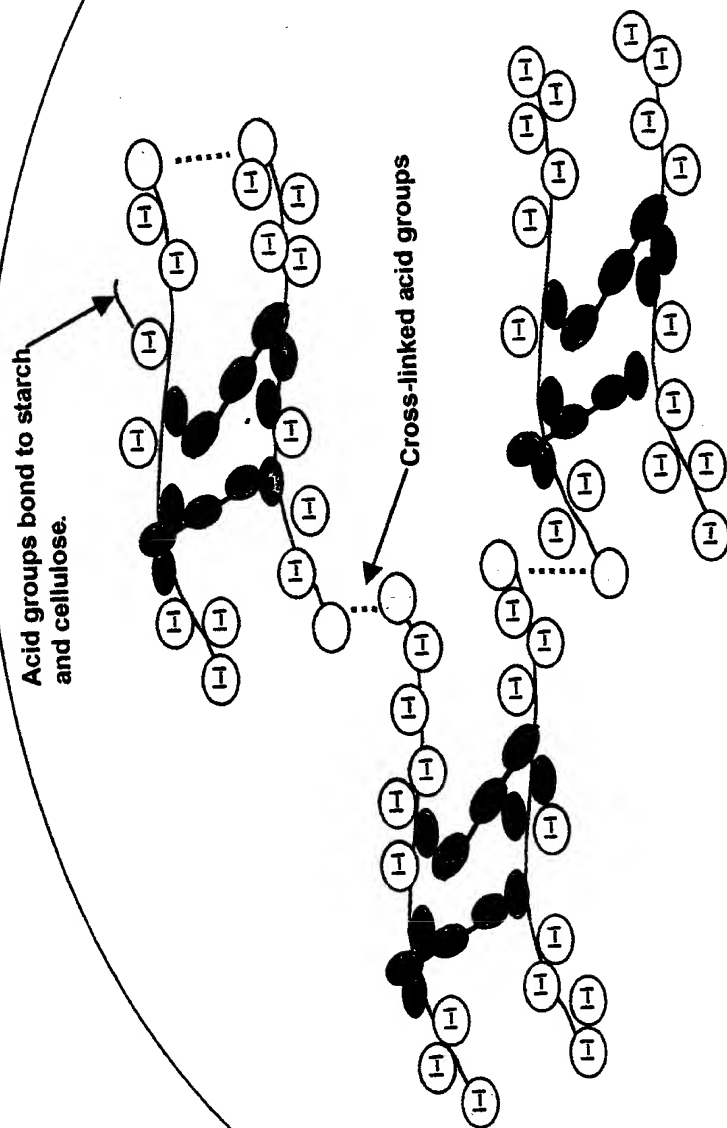


[illegible]

**Figure 2.**

## IPEC plus Cross-linking and Binder Wet and Dry Strength

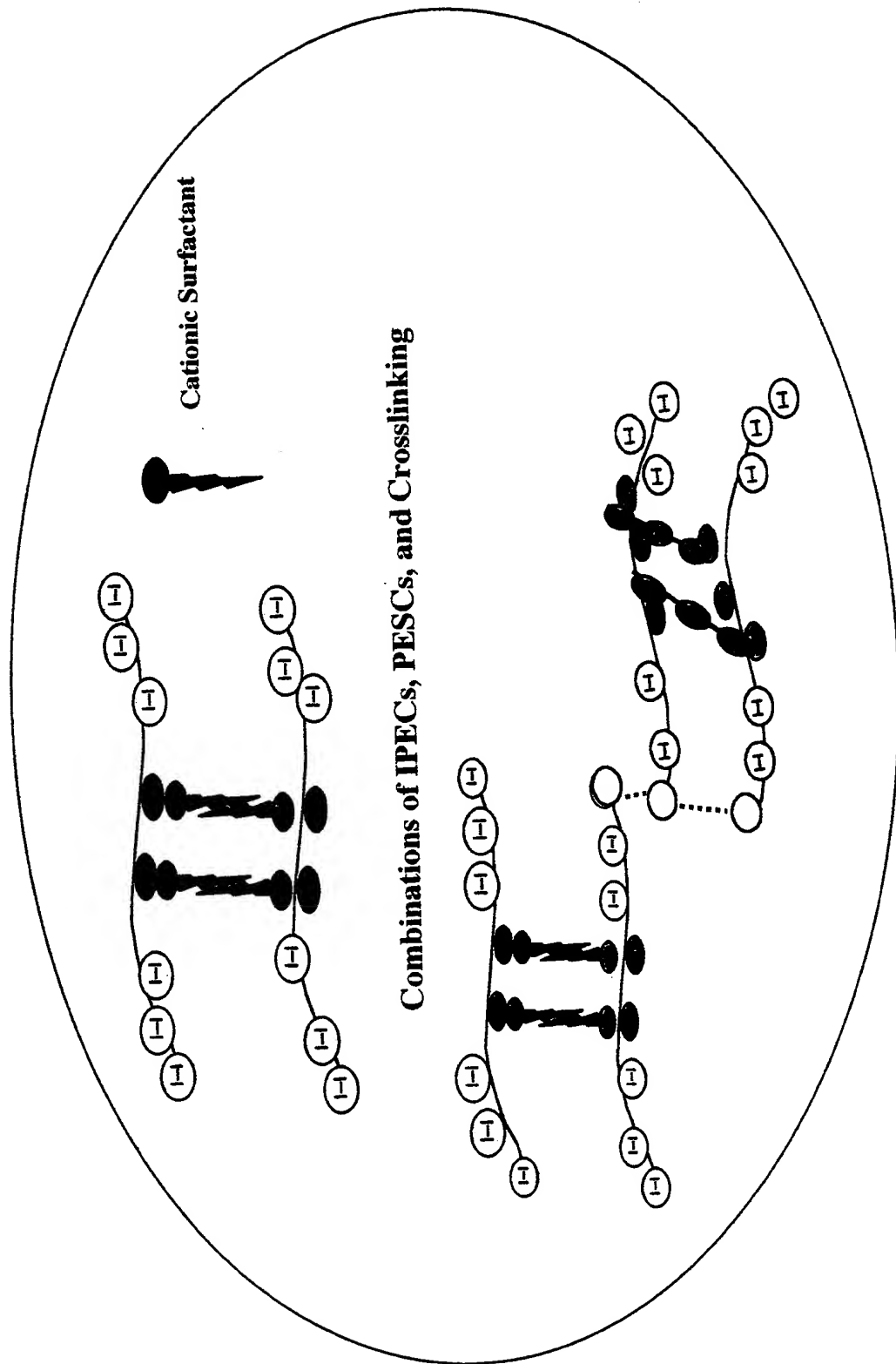
## Functional groups attach to binder at elevated temperature..



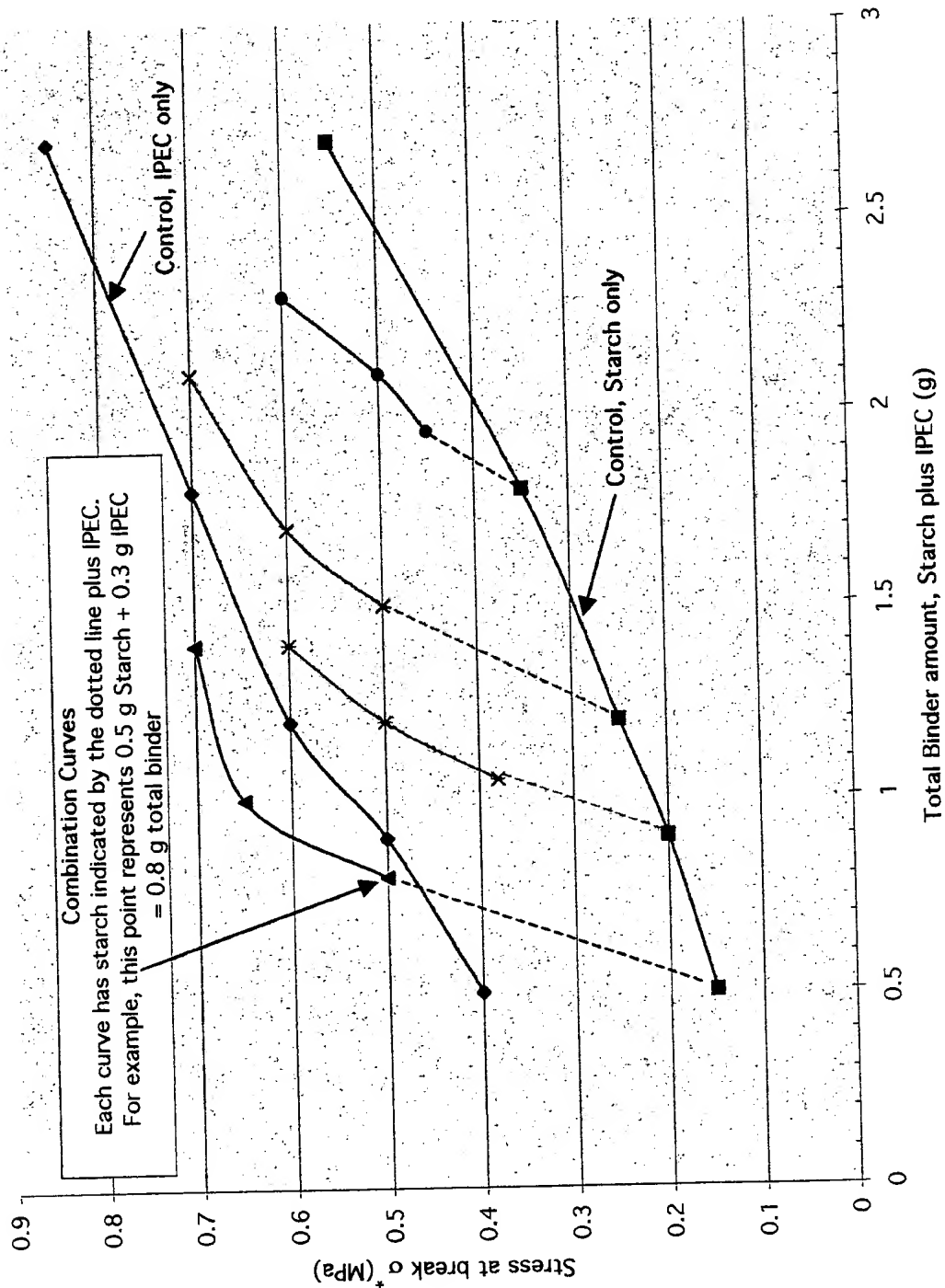
## Binder

**Starch granule, latex, or hydrogel particle.**

**Figure 3.**  
**Polyelectrolyte Surfactant Complexes (PESCs)**  
**Cationic Surfactant with Anionic polymer.**  
**Wet and Dry Strength**



**Figure 4**  
Synergistic Effect of IPEC and Starch on Dry Strength



Synergistic Effect of PESc and Starch on Dry Strength

